

WE CLAIM:

1. A feedback gain control for an optical coupler feedback circuit, comprising:
2 an optical coupler having input leads and output leads isolated from said input leads;
a current monitor connected to said input leads;
4 a reference level;
a operational amplifier having a first input connected to said current monitor and a second
6 input connected to said reference level, an output of said operational amplifier
connected to vary current to said input leads of said optical coupler depending on
8 input signals to said operational amplifier.

2. A feedback gain control as claimed in claim 1, further comprising:

an active element is connected at said output of said operational amplifier, said active element
being connected to vary current to said input leads of said optical coupler depending
4 on an output signal from said operational amplifier.

3. A feedback gain control as claimed in claim 2, wherein said active element is a

2 transistor.

4. A feedback gain control as claimed in claim 1, wherein said output of said

2 operational amplifier draws off current from said input leads of said optical coupler
depending on an output signal from said operational amplifier.

5. A feedback gain control as claimed in claim 1, wherein said current monitor is a
2 voltage divider.

6. A feedback gain control for an optical coupler feedback circuit, comprising:
2 an optical coupler having input leads and output leads isolated from said input leads;
a current monitor connected to said input leads; and
4 an active element connected to respond to changes in current flow as detected by said current
monitor and connected to vary current at said input leads of said optical coupler.

7. A feedback gain control as claimed in claim 6, wherein said active element is a
2 shunt regulator.

8. A feedback gain control as claimed in claim 6, wherein said active element is a
2 transistor.

9. A feedback gain control as claimed in claim 8, further comprising:
2 a operational amplifier having a first input connected to said current monitor and a second
input at a reference value and an output connected to a control input of said transistor.

10. A feedback gain control as claimed in claim 8, wherein said transistor is a field
2 effect transistor.

11. A feedback gain control as claimed in claim 6, wherein said active element is in

2 an output circuit of an operational amplifier.

12. A method for gain control of an optical coupler feedback circuit, comprising the

2 steps of:

monitoring a current at an input of an optical coupler in said optical coupler feedback relative
4 to a reference; and

varying a current supplied to said input of said optical coupler depending on variation of said
6 current from said reference to effect a substantially constant gain of said optical
coupler feedback circuit over a lifetime of the optical coupler feedback circuit.

13. A method as claimed in claim 12, wherein said monitoring step includes

2 monitoring a voltage at a voltage divider.

14. A method as claimed in claim 12, wherein said reference is a reference voltage.

15. A method as claimed in claim 12, wherein said reference is a characteristic of a

2 shunt regulator.

16. A method as claimed in claim 12, further comprising the step of:

2 comparing said current to said reference to produce a comparison result.

17. A method as claimed in claim 16, wherein said step of varying the current is
2 controlled by said comparison result.

18. A power supply, comprising:

2 a power transformer having an input side and an output side;
a rectifier connected to said output side of said power transformer and having an output at
4 which is available an output voltage;
a operational amplifier connected to said output of said rectifier and connected to a first
6 reference value, said operational amplifier having an output;
a first active element having a control input connected to said output of said operational
8 amplifier;
an optical coupler having an input and an output isolated from said input, said input being
10 connected to be controlled by said first active element;
a control circuit having an input connected to said output of said optical coupler and an
12 output connected to said input side of said power transformer;
a voltage divider connected to receive at least a portion of a current through said first active
14 element and said input of said optical coupler;
a second active element connected to selectively draw current from said first active element
16 and said input of said optical coupler, said second active element operating relative to
a second reference value to hold a gain through said optical coupler substantially
18 constant.

19. A power supply as claimed in claim 18, wherein said operational amplifier is a

2 first operational amplifier, and further comprising:

a second operational amplifier connected to receive a voltage from said voltage divider and to

4 receive said second reference value, said second operational amplifier having an

output connected to a control input of said second active element.

20. A power supply as claimed in claim 18, wherein said second active element is a

shunt regulator having an input connected to said voltage divider.

21. A gain controlled feedback circuit, comprising:

an optical coupler having an input and an output isolated from said input;

a first transistor connected to said input of said optical coupler;

4 a first operational amplifier having an output connected to a control input of said first

transistor, said first operational amplifier having first and second inputs connected to a

6 first reference value and to a value to be controlled;

a voltage divider connected to said first transistor;

8 a second operational amplifier having first and second inputs connected to a second reference

value and to said voltage divider; and

10 a second transistor having a control input connected to an output of said second operational

amplifier, said second transistor having a controllable current path connected to said

12 first transistor to draw off current from said voltage divider depending on gain

variations of said optical coupler.